

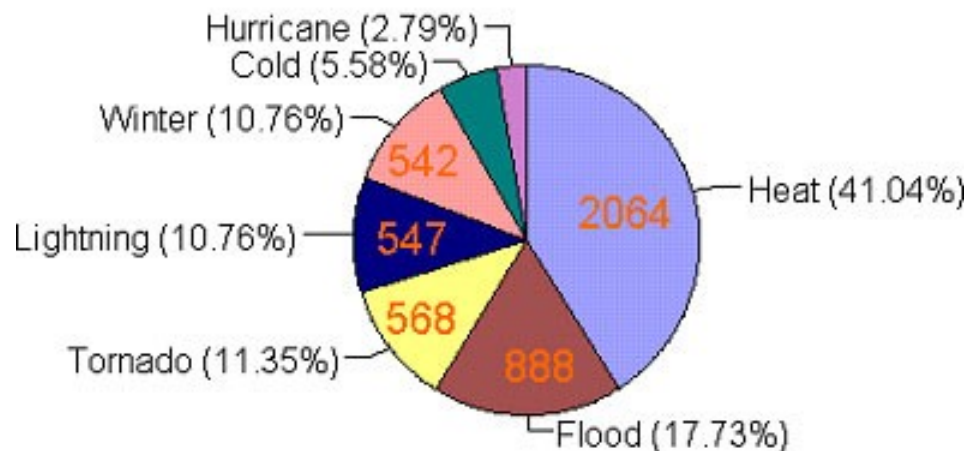


Heat Stress

Severe Weather Fatalities

“...heat is by far the number one killer of all weather events...”

**National
Severe Weather Fatalities
(1991 - 2000)**



Water Loss

- ☐ Normally, with light activity, your body loses 2 to 3 quarts of water daily.
- ☐ In a hot weather environment, you lose 6 to 8 quarts of sweat which is critical to your body's cooling.
- ☐ Your thirst mechanism is not sensitive enough to be an accurate indicator of your body's needs.
- ☐ Encourage workers to drink water-about a cup of water every 15 to 20 minutes, even if they are not thirsty. Avoid alcohol, caffeine and soft drinks.

WBGTI

The **Wet-Bulb Globe Temperature Index (WBGTI)** takes into account four variables: air temperature, humidity, radiant heat and air movement. This reading gives a more accurate measurement of heat stress than any one reading alone.



Heat related illness includes: heat rash, cramps, exhaustion and stroke. These illnesses are a real danger to people not accustomed to the stress of hot weather exercise.



Responsibilities



Boone Branch Medical

Clinic

- Develop policy and oversight program
- Determine WBGT and Heat Stress Flags
- Inform OOD/CDO, EWTGLANT and NIOC of appropriately colored flag (OOD/CDO inform NAB LC XO, Security and MWR for Black flag)



MWR

- Raise Black flags/signs at gyms and golf course when notified



NAB LC Departments and tenants

- Establish activity heat stress monitoring procedures
- Monitor heat levels (telephone / flags/ signs)
- Restrict physical activity if appropriate

Ref - NAVMED P-5010

- NAB LC INST
6110.3A

Heat Stress Flag Colors

Recorded message

314-6811

Above 89

Black- Wet Bulb Globe Thermometer (WBGT) index of **90° or Above**. Physical training and strenuous exercise must be suspended for all personnel. (excludes operational commitment not for training purposes). A “20-minute work/ 10- minute rest” cycle may be utilized, as well as employee rotation.

88 - 89.9

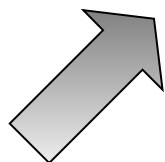
Red- WBGT index of **88 - 89.9°**. Strenuous exercise must be curtailed for all personnel with less than 12 weeks training in hot weather.

85 - 87.9

Yellow- WBGT index of **85 - 87.9°**. Strenuous exercise and activity must be curtailed for new and unacclimatized personnel during the first 3 weeks of heat exposure. Outdoor classes in the sun must be avoided.

82-84.9

Green- WBGT index of **82 - 84.9°**. Discretion is required in planning heavy exercise for unacclimatized personnel. This is a marginal heat stress limit for all personnel.



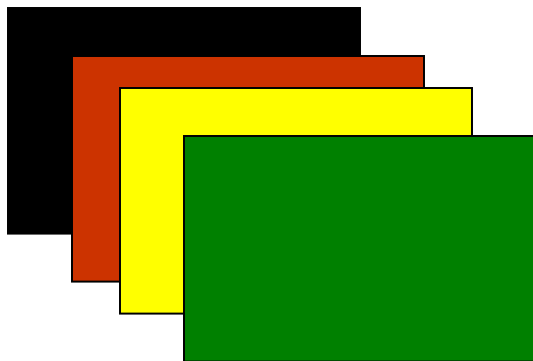
(numbers are **Wet Bulb
Globe Temperature
Index- not
temperature**)

Emergency

462-4444

Wearing body armor or NBC protective uniforms adds approximately 10 points to measured WBGT. Limits of exposure should be adjusted accordingly.

Flags / Signs Displayed



Flags or signs displayed at:

- Flags flown

- Sulinski Field
- PORT OPS

- Signs displayed (Black flag only)

- Rockwell Hall locker room
- Westside gym locker room
- Eagle Haven Golf Course

Recorded Message

314-6811

Information Available

NAB LC Quarterdeck- 462-7385 (Mon-Fri)

NAB LC CDO- 438-3930 (Sat-Sun)

Emergency

462-4444

Reporting Requirements

A screenshot of the NAVFORM 6500/1, Heat/Cold Injury Report. The form is titled "HEAT/COLD INJURY REPORT" and includes sections for "PATIENT INFORMATION", "INCIDENT INFORMATION", "MEDICAL HISTORY", "PHYSICAL EXAMINATION", "LABORATORY TESTS", "TREATMENT", "DISPOSITION", and "FOLLOW-UP". It is a detailed medical report form used for documenting heat and cold injuries.

All diagnosed heat injuries must be reported to the Navy Environmental Health Center (NEHC) on NAVMED Form 6500/1, Heat/Cold Injury Report

<http://www.safetycenter.navy.mil/OSH/forms/files/heat-cold.pdf>

A screenshot of the "SUPERVISOR'S REPORT OF CIVILIAN/MILITARY ON-DUTY/OFF-DUTY INJURIES/ILLNESSES/DEATHS". The form includes fields for "NAME", "TITLE", "ORGANIZATION", "DATE", "TIME", "LOCATION", "DESCRIPTION OF INCIDENT", "CAUSE OF INCIDENT", "INJURY/ILLNESS/DEATH", "TREATMENT", "DISPOSITION", and "FOLLOW-UP". It is a report form used by supervisors to document incidents involving personnel.

Supervisors' Report Of Civilian/ Military On-duty /Off-duty Injuries/ Illnesses/Deaths

Contact the NABLC Safety Office



Heat Stress Illnesses **Heat Rash**

Causes- Heat rash normally happens most often in hot, humid conditions, particularly wearing heavy clothing and with excessive sweating. Fair skinned individuals are more prone to develop heat rash.

Symptoms: Interferes with sleep and results in decreased deficiency and cumulative fatigue.

Treatment: Treated by keeping skin dry, use of cooled sleeping quarters, calamine lotion.



Heat Stress Illnesses **Heat Cramps**

Causes This normally happens after exercise. Most often to people who aren't used to the heat, who sweat a lot or don't drink enough fluids.

Symptoms: Severe pain and cramps in legs and abdomen, fainting or dizziness, weakness, profuse sweating and headaches.

Treatment: Increase fluid intake, increase salt intake, rest and move to a cool place.



Heat Stress Illnesses Heat Exhaustion

Causes This is caused by the loss of body fluids and important salts due to overexposure to high temperatures and humidity. Usually you are exposed to heat for a prolonged amount of time, such as standing in formation, and you become dehydrated.

Symptoms: Headache, nausea, fatigue, dizziness, skin is cool and pale, pupils become dilated. Victim is usually conscious but may faint, has a core temperature of over 102.

Treatment: Get to the shade, cool off, increase fluids, cold wet towels or ice, fan, elevate legs above heart, loosen clothing, don't give any liquids containing alcohol or caffeine, may need IV. If condition worsens seek medical attention immediately. If left untreated Heat Exhaustion can lead to HEATSTROKE.

Heat Stress Illnesses **Heat Stroke**



Causes- Heat stroke is a medical emergency and a life threatening condition. It is caused by the failure of the heat-regulating mechanisms of the body, due to high heat and humidity.

Symptoms: Headache, nausea, dizziness, skin is red, dry and very hot (sweating has ceased). Pulse is strong and rapid, small pupils, high fever 105. May be disorientated, lose consciousness, possible convulsions.

Treatment: Remove to cooler location, loosen clothing, immerse in cool water, wrap in wet sheets, cold compresses to the head, neck and groin. **SEEK MEDICAL ATTENTION IMMEDIATELY. DO NOT** give medication to lower fever, **DO NOT** use an alcohol rub.

Warning Signs

Every year people pass out and some even die during exercise from heat stroke. But you do get plenty of warning.

First your muscles are affected, as your temperature rises they feel like a hot poker is pressing against them.

As your temperature rises further, the air you breathe feels like it is coming from a furnace and no matter how hard you try, you can't get enough air.... **STOP EXERCISING.** Take a break and drink fluids.

If you continue, your body temperature will rise further and affect your brain.

Your head will start to hurt, you will hear ringing in your ears, you will feel dizzy and may have difficulty seeing, and the next step is unconscious on the ground.

**SO BE SMART WHEN YOU EXERCISE-
know your limits and drink plenty of fluids.**

How to Protect Workers

- ☐ **Learn the signs and symptoms of heat-induced illnesses and what to do to help the worker**
- ☐ **Train the workforce about heat-induced illnesses**
- ☐ **Perform the heaviest work in the coolest part of the day**

How to Protect Workers (con't)

- ☐ **Slowly buildup tolerance to the heat and activity (about 2-3 weeks)**
- ☐ **Use the buddy system**
- ☐ **Drink plenty of cool water (one small cup every 15-20 minutes)**

How to Protect Workers (con't)

- ☐ **Wear light loose-fitting, breathable clothing (like cotton)**
- ☐ **Take breaks in cool shaded areas**
- ☐ **Avoid eating large meals before working in hot environments**
- ☐ **Avoid caffeine and alcohol (these beverages make the body lose water and increase your risk for heat illnesses)**

Final Note

- ❑ **One Final Note:** Heat stroke can affect your children as well. With toddlers/babies heat stroke can occur quickly, during long rides in a closed vehicle or being dressed too warmly. Older children are also susceptible.
- ❑ Follow the same procedures as with an adult, cool them off, sponge them down, bring their temperature down as quickly as possible but **DO NOT** use TYLENOL. **SEEK MEDICAL ATTENTION IMMEDIATELY.**

NABLC Contacts

Safety Office

(757) 462-2193

Bldg 1602

Emergency

462-4444

Boone Clinic

Preventive Medicine

(757) 314-7359 or 7360

Bldg 3505

<http://www.nablc.navy.mil/safety/contacts.htm>